



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,196	07/07/2003	Jung-Hwan Kim	1349.1228	4578
21171	7590	09/08/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			LIANG, LEONARD S	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/613,196

Applicant(s)

KIM, JUNG-HWAN

Examiner

Leonard S. Liang

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28 is/are allowed.
- 6) ☒ Claim(s) 1, 20, 23-27 is/are rejected.
- 7) ☒ Claim(s) 2-19, 21 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claim 23 is objected to because of the following informalities: Claim 23 discloses “The method...wherein the adjusting the head gap...” This is not grammatically correct. It will be construed that the claim should state “The method...wherein adjusting the head gap...” Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20, 23-26 rejected under 35 U.S.C. 102(b) as being anticipated by Kawahara et al (US Pat 4990004).

Kawahara et al discloses:

- {claim 20} A method of adjusting a head gap in an inkjet printer (figure 7);
receiving a head gap adjust command to rotate a carrier shaft with respect to a carrier from a control unit; reading out a head gap state stored in a non-volatile memory of the control unit; comparing a head gap position to be adjusted according to the received head gap adjust command to the head gap state read out from the non-volatile memory; adjusting the head gap position when the head gap position to be adjusted does not match the read-out head gap state as a result

Art Unit: 2853

of the comparison; and storing an adjusted head gap state and waiting for printing (figure 5)

- {claim 23} wherein adjusting the head gap position comprises automatically adjusting the head gap in response to the driving force of the carrier driving unit and the paper supply roller driving unit without using an extra driving motor (abstract; figure 5)
- {claim 24} initializing the head gap (figure 5)
- {claim 25} wherein the initializing the head gap comprises storing an arbitrary head gap position in the non-volatile memory upon manufacturing of the printer; reading out the head gap state stored in the non-volatile memory; setting a head gap state flag corresponding to the read-out head gap state; and initializing a mechanism for the head gap (figure 5)
- {claim 26} wherein the head gap adjust command is received by one of a head gap adjustment and paper selection button on a control panel of the control unit (figure 2, 5)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara et al (US Pat 4990004) in view of Olson (US Pat 5838338).

Kawahara et al discloses:

- {claim 1} An apparatus to adjust a head gap in an inkjet printer having a carrier provided with a printer head which includes nozzles to jet ink, a chassis (chassis inherent to invention) provided with side frames to support a carrier shaft and a guide rail to guide movements of the carrier, a carrier driving unit to move the carrier left and right along the carrier shaft (figure 7); a carrier ascent/descent unit to rotate the carrier shaft with respect to the carrier to ascend and descend the carrier in order to adjust a head gap between the nozzles of the printer head and a respective sheet of paper (figure 7; column 8, line 30 – column 9, line 36); a clutch unit to transfer a driving force of the paper supply roller driving unit to the carrier ascent/descent unit by the carrier which moves by the carrier driving unit upon the adjustment of the head gap (figure 7, reference 53); and a control unit to store an adjusted head gap state and to adjust a head gap position required based on the stored adjusted head gap state (figure 5)
- {claim 27} An apparatus to adjust a head gap in an inkjet printer; a carrier; a chassis (chassis inherent); a carrier driving unit; a head gap is adjusted by using forces of the carrier driving unit (figure 7; column 8, line 30 – column 9, line 36)

Kawahara et al differs from the claimed invention in that it does not disclose:

- {claim 1} paper supply roller driving unit to drive a paper supply roller which supplies sheets of paper to be printed on

Art Unit: 2853

- {claim 27} paper supply roller driving unit to drive a paper supply roller which supplies sheets of paper to be printed on; the head gap is adjusted by using driving forces of the carrier driving unit and the paper supply roller driving unit without using an additional driving unit

Olson discloses:

- {claims 1 and 27} paper supply roller driving unit to drive a paper supply roller which supplies sheets of paper to be printed on (figure 2, reference 60)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Olson into the invention of Kawahara et al. The motivation for the skilled artisan in doing so is to gain the benefit of being able to print on paper. The combination naturally suggests the head gap is adjusted by using driving forces of the carrier driving unit and the paper supply roller driving unit without using an additional driving unit.

Allowable Subject Matter

Claims 2-19 and 21-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 2 discloses, “a clutch part to transfer or cut off the driving force of the paper supply roller driving unit to or from the carrier shaft; and an operation part to operate the clutch part to transfer the driving force of the paper supply roller driving unit to the carrier shaft,” which was not found, taught, or disclosed in the prior arts.

Claims 3-19 depend from objected claim 2.

Claim 21 discloses, “controlling a paper supply roller driving unit to generate a driving force when the carrier is disposed at the head gap adjustment position in order for the carrier shaft to move with respect to a paper path,” which was not found, taught, or disclosed in the prior arts.

Claim 22 depends from objected claim 21.

Claim 28 is allowed.

The following is an examiner’s statement of reasons for allowance: Kawahara et al does not disclose a paper supply roller driving unit. While Olson discloses a paper supply roller driving unit, it does not disclose a clutch unit to transfer a driving force of the paper supply roller driving unit to the carrier ascent/descent unit.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S. Liang whose telephone number is (571) 272-2148. The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

09/05/05
lsl 156


Stephen D. Meier
Primary Examiner